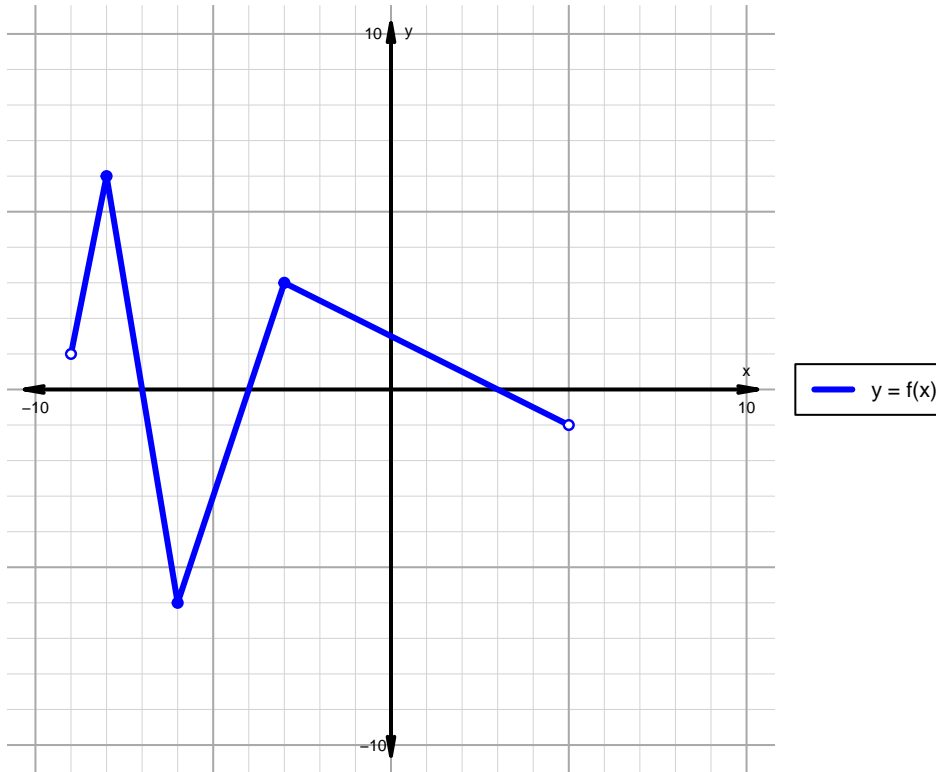


Name: \_\_\_\_\_

Date: \_\_\_\_\_

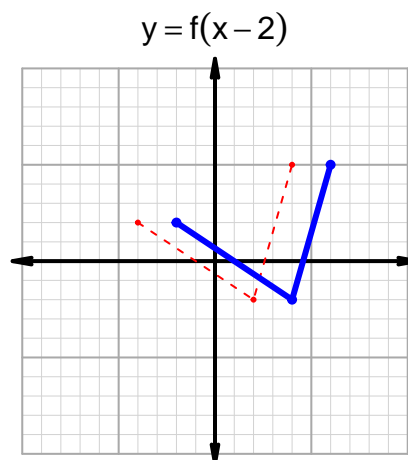
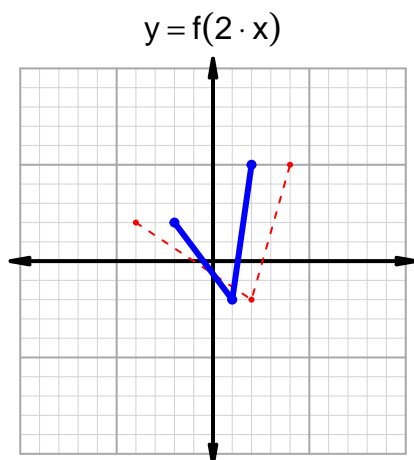
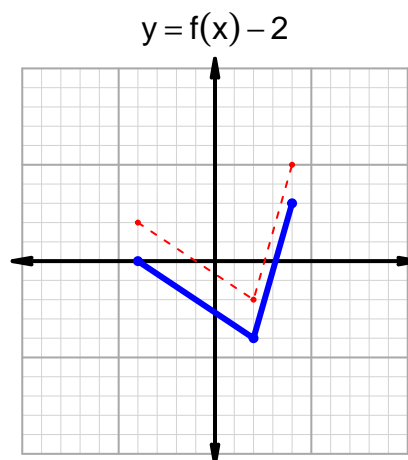
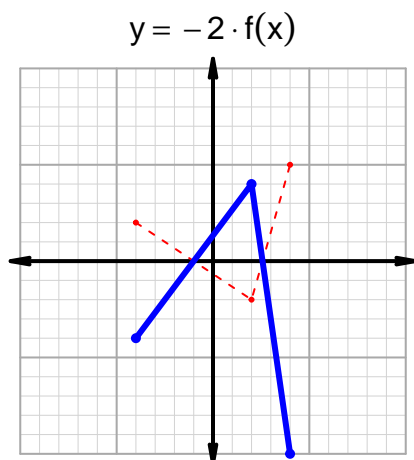
**Intervals, Transformations, and Slope Solution (version 6)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-9, -7) \cup (-4, 3)$
Negative	$(-7, -4) \cup (3, 5)$
Increasing	$(-9, -8) \cup (-6, -3)$
Decreasing	$(-8, -6) \cup (-3, 5)$
Domain	$(-9, 5)$
Range	$(-6, 6)$

## Intervals, Transformations, and Slope Solution (version 6)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 13$  and  $x_2 = 29$ . Express your answer as a reduced fraction.

$x$	$g(x)$
13	44
29	30
30	13
44	29

$$\frac{f(29) - f(13)}{29 - 13} = \frac{30 - 44}{29 - 13} = \frac{-14}{16}$$

The greatest common factor of -14 and 16 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-7}{8}$$